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June 27, 2017

**Ex Parte**

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street SW, Washington, DC 20554

Re: Preservation of One Vacant Channel in the UHF Television Band for Use by White Space Devices and Wireless Microphones, MB Docket No. 15-146; Amendment of Part 15 of the Commission's Rules for Unlicensed Operations in the Television Bands, Repurposed 600 MHz Band, 600 MHz Guard Bands and Duplex Gap, and Channel 37, ET Docket No. 14-165; Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions, GN Docket No. 12-268

Dear Chairman Pai, Commissioner Clyburn, and Commissioner O'Rielly:

FreedomWorks Foundation, with an online community of 6.9 million that promotes market-based solutions to public policy issues, is pleased to submit these comments in favor of allowing private markets for TV white space internet services.

Established in July 2004 through a merger of Citizens for a Sound Economy Foundation and Empower America, FreedomWorks Foundation has consistently pursued policies that foster free-enterprise and competition. FreedomWorks Foundation has been actively involved in a number of regulatory issues and has been particularly interested in technological advances and changes in the marketplace that bolster competition and consumer choice.

On June 26<sup>th</sup>, FreedomWorks published a blog detailing the significant advantages that a private market for TV white space internet service would provide to rural areas. Its contents begin on the next page. FreedomWorks Foundation would be willing to testify further on this issue if requested.

Sincerely,

Wayne T. Brough, Ph.D.  
Chief Economist and VP for Research  
FreedomWorks Foundation

Andrew Magloughlin  
Economics Researcher  
FreedomWorks Foundation

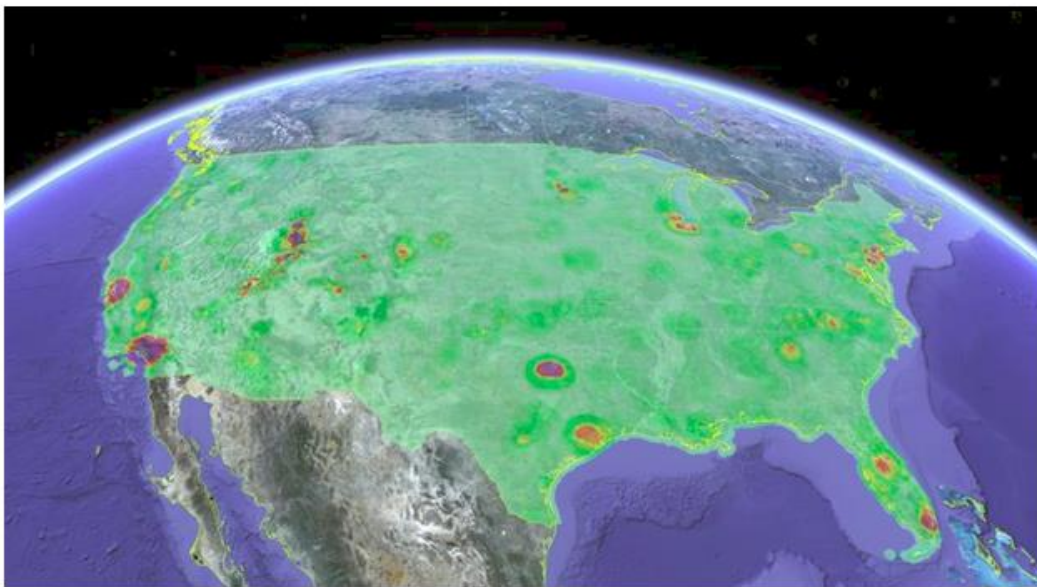
## TV White Space Would Bring Broadband to Rural America

As technology continues to digitize our daily lives, the urban-rural divide in Internet usage reaps public attention. Despite a decade of improvements between 2007 and 2017, including the near doubling of rural broadband usage from 35% to 63%, rural Americans are still 10% less likely than average to use the Internet. Much of this is attributable to low population density, which makes rural towns less appealing to Internet service providers (ISPs) than customer-packed urban centers. Broadband cable installation over the bare Midwestern and mountainous western expanses is expensive and inefficient. The cable infrastructure for some rural areas is simply too costly.

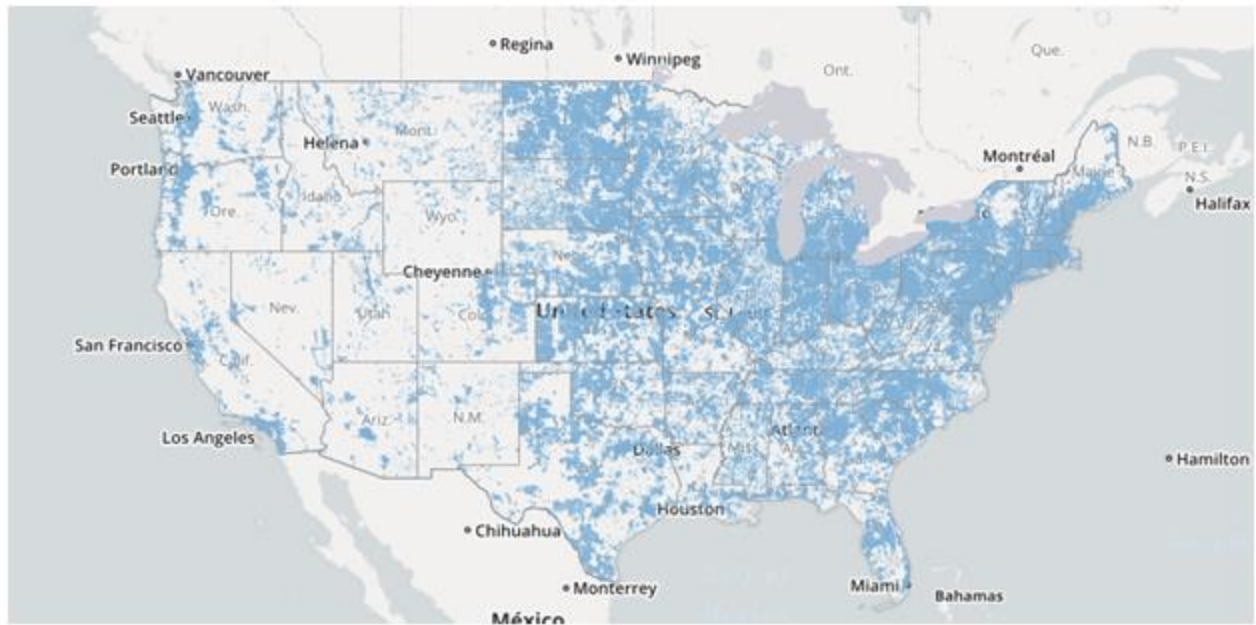
But there's a cheaper path to broadband access for rural America: TV white spaces.

TV white space is unused radio frequency spectrum, either buffer zones between channels or entirely unused channels. White space provides wireless Internet connection to anything with connection capability. Most importantly, white space coverage is nearly universal, blanketing a much larger area than broadband. The two maps below compare the coverage extent of TV white space to broadband, DSL, and fiber combined coverage in the United States.

### TV White Space Coverage (within the United States)



## Cable Broadband, DSL, and Fiber Coverage (within the United States)



Infrastructure costs for white space are inexpensive compared to cable or fiber broadband. There's no need for pricey underground installations. Rather, TV white space uses the same infrastructure as, predictably, a TV broadcast. Considering that 301.7 million or 94% of all Americans live in homes with a TV, such infrastructure would reliably deliver broadband almost anywhere.

Providing Internet with TV white spaces isn't some fledgling venture experiment. Hospitals and megachurches already use white space freely. In many hospitals, medical telemetry devices connect patient vital monitoring to wireless white space Internet with antennae and centralized receivers. This allows soon-to-be patients traveling in ambulances to upload vital signs to hospital computers before arrival. Doctors can monitor patients from anywhere in the hospital complex. Megachurches use white space for wireless microphones at Christian services. Broadway theaters and the NFL use white space similarly at their own venues.

So why aren't we using this great technology? It comes down to government regulations, specifically, licensing requirements.

The Federal Communications Commission (FCC) controls and allocates the radio spectrum for all United States users, excluding the federal government. For many years, the FCC prohibited most

unlicensed white space usage, due to concerns of signal interference with licensed users. This changed in 2010 when the FCC adopted final rules that permit unlicensed radio transmitters to use white space within regulatory guidelines that safeguard against interference. Further deregulation for white spaces followed in 2015. Even though interference problems are a thing of the past, current rules do not permit white space usage beyond personal devices. This prevents companies from providing for-profit white space Internet services to the rural Americans who desperately need it.

Thankfully, however, the FCC may unleash free-market TV white space Internet services. FCC Chairman Ajit Pai recently completed a tour of rural America, including states like Wyoming and Wisconsin. During this tour, he sought input from rural communities and companies as to how the FCC can improve Internet access. One solution Chairman Pai will reportedly consider is expanding the private market for TV white space.

In July, the FCC is likely to host a hearing about further white space innovation, specifically by preserving three channels for white space usage. If this hearing leads to rules establishing markets for affordable white space broadband in rural America, universal Internet coverage is a step closer.

*Article available here at: <http://www.freedomworks.org/content/tv-white-space-would-bring-broadband-rural-america>*